Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)
Approved for use through xx/xx/200x. OMB 0651-00xx
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): 1185.1055

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

Typed or printed name _____

Application Number	Filed
09/726,329	12/1/2006

First Named Inventor: Fuminori HIRAISHI

Art Unit	Examiner
2871	Dung T. Nguyen

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

Aprvd for Electronic Filing
Richard A. Gollhofer
Date: 6/13/07 RAG

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☑ attorney or agent of record. Registration number 31,106
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

/Richard A. Gollhofer/
Signature

Richard A. Gollhofer
Typed or printed name

202-434-1500
Telephone number

June 13, 2007
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

Docket No.: 1185.1055

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Fuminori HIRAISHI

Serial No. 09/726,329 Group Art Unit: 2871

Confirmation No. 1030

Filed: December 01, 2000 Examiner: Dung T. Nguyen

For: LIGHT CRYSTAL DISPLAY, SURFACE LIGHT SOURCE DEVICE, AND LIQUID CONTROL SHEET

ARGUMENTS IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Attention: **Mail Stop AF**

Sir:

In the Office Action mailed December 13, 2006, the Examiner noted that claims 1-6 were pending in the application; rejected claims 1-6 under the first and second paragraphs of 35 USC § 112; and rejected claims 1-6 under 35 USC § 102(b) as anticipated by U.S. Patent 5,587,816 to Gunjima et al. (Reference A in the December 8, 2003 Office Action).

Rejections under 35 USC § 112

The rejections under the first and second paragraphs of 35 USC § 112 are a result of the Examiner's disbelief of the recitation in the claims, as supported by the specification, that the liquid crystal display recited in claim 1, the surface light source device recited in claim 2 and the light control sheet recited in claim 3 include "at least a light guide plate emitting light having a polarization state" (claim 1, lines 6-7 and claims 2 and 3, line 4). The Amendment filed October 5, 2006 explained that this characteristic of the light guide plate was supported by pages 7-8 and Figs. 5 and 6 of the application. The Response to Arguments section of the December 13, 2006 Office Action responded to this explanation by asserting that "[o]ne of ordinary skill in the art would not be able to ... find how light from lamp 6 can be polarized without go[ing] through any polarization element" (December 13, 2006 Office Action, page 5, lines 7-8).

It is submitted that the Examiner has provided no support for the position that a light guide plate is incapable of having the polarization effect described in the application. According to the specification, "light guide plate 4 is made of a light-permeable resin (such as polymethyl

methacrylate) within which light scattering material such as silicone-type resin powder is dispersed uniformly" (application, page 6, lines 16-18). Pages 7-8 and Fig. 5 of the application clearly describe and illustrate a test that was performed on a light guide plate and the polarization effect that resulted is depicted in Fig. 6. It is understood by one of ordinary skill in the art that the light emitted from the emission face 11 (Fig. 5) of light guide plate 4 is inner-incident to the emission face at an incidence angle smaller than the critical angle (about 42° for polymethyl methacrylate (PMMA)) and that light inner-incident to the emission face at an incidence angle larger than the critical angle is not emitted from the light guide plate. Therefore, only a certain proportion of the inner-incident light can escape from the light guide plate. This proportion can be called the "escaping rate" and, as known in the art, the escaping rate has different values depending on the polarization component (P-polarization or S-polarization). Accordingly, even if the light inner-incident to the emission face of the light guide plate is completely non-polarized (i.e., 50% of P-polarization and 50% of S-polarization), the emitted light is not non-polarized (e.g., 60% of P-polarization and 40% of S-polarization). As a result, the light emitted from the emission face of the light guide plate 4 in the test illustrated in Fig. 5 is polarized to an extent that can be estimated by the eccentricity of the ellipse illustrated in Fig. 6.

The claims do not recite and the specification does not describe *polarized* light emitted from a fluorescent light, but rather that after being emitted by a fluorescent light and passing through a light guide plate, light is polarized to the extent illustrated in Fig. 6 of the application. No evidence has been cited by the Examiner contradicting these test results or the knowledge that one of ordinary skill would possess as discussed above. It is submitted that one of ordinary skill in the art would have no difficulty duplicating the test described on pages 7-8 of the application to confirm the polarization of light emitted by a light guide plate formed of PMMA would be as indicated by the test results illustrated in Fig. 6.

For the above reasons, withdrawal of the rejections under 35 USC § 112 is respectfully requested.

Rejections under 35 USC § 102(b)

In item 6 on pages 3-4 of the Office Action, claims 1-6 were rejected under 35 USC § 102(b) as anticipated by Gunjima et al. using the same words as in the April 6, 2006 Office Action. Furthermore, in the second subitem b of item 7 on page 5 of the December 13, 2006 Office Action in the Response to Arguments section, it was asserted that column 12, lines 41-45 of Gunjima et al. discloses that "the polarization plate 9, converts the light direction of the light having an angle of substantially 60° to the light ... having the direction perpendicular (90°) to the face of the LCD element (through the polarization [plate] 9)" (Office Action, page 5, lines 9-12);

therefore, "the emitted light from the light guide plate would be rotate[d] around a light traveling direction (e.g., from 60° to 90°)" (Office Action, page 5, lines 12-13).

Due to the quality of the English quoted above from lines 9-12 on page 5 of the December 13, 2006 Office Action, Applicant cannot be entirely certain what the Examiner meant. As best the Applicant can determine, the statements quoted in the preceding paragraph (which also appeared in the April 6, 2006 Office Action) seem to suggest that due to **reflection** within prism array 7 as described at column 12, lines 31-45 of Gunjima et al., there is **rotation** of the polarization of the emitted light as recited in the independent claims, i.e., "polarization of the light emitted from said light guide plate is **rotated** around a traveling direction of the light toward a direction of a light transmission axis of said polarization plate by transmitting through the light control sheet" (e.g., claim 1, last 3 lines, emphasis added). Applicant does not understand why the Examiner finds a logical connection between these two entirely different changes in direction. Furthermore, the last paragraph on page 4 of the December 13, 2006 Office Action (first subitem b of item 7 on page 4 of the Office Action) seems to assert that it is the "Applicant [who] confuses the function of 'reflection' within [the] prism array as described by Gunjima et al. and the 'rotation' of the polarization of the emitted light in the claimed invention" (December 13, 2006 Office Action, page 4, lines 12-14).

As discussed in the Request for Reconsideration filed June 8, 2004 and the Amendments filed August 5, 2004; May 3, 2005; January 19, 2006 and October 5, 2006, nothing has been found in column 12, lines 31-45 or anywhere else in Gunjima et al. suggesting that prism array 7, which causes reflection of light as illustrated in Fig. 1 of Gunjima et al., has any role in the polarization of the light emitted therefrom. As clearly apparent from the symbols defined in the legend at the bottom of Fig. 1 of Gunjima et al. and the description of polarized light separator 6 in column 11, lines 9-49, polarized light separator 6 causes light having a "polarization face perpendicular to plane" to be reflected within light guide 3 and permits light with an "in-plane polarization face" to pass through polarized light separator 6 and reach prism array 7. There is no subsequent mention of any effect on the polarization of the light by either prism array 7 or light diffusing sheet 8. Nor is there any suggestion that polarized light separator 6 has any rotational effect on the polarization of the light passing therethrough. It merely acts as a polarized light filter, like that well known to anyone who has used polarized sunglasses.

Unlike Gunjima et al., as discussed above, the polarization effect of the light guide sheet recited in claims 1-3 is fully described in the specification. In addition, the independent claims recite that the light emitted by the light guide plate has "a polarization state" (e.g., claim 1, line 7). All that is disclosed in Gunjima et al. is that prism array 7 **reflects** light which is then polarized by polarized light separator 6. As a result, there is no suggestion in Gunjima et al. that by transmis-

sion through the polarized light separator "a maximum-intensity-direction of polarization of the light emitted from said light guide plate is rotated around a traveling direction of the light toward a direction of a light transmission axis of said polarization plate" (e.g., claim 1, last 3 lines), because no description has been cited or found in Gunjima et al. regarding how light emitted by the prism array 7 is polarized or that the light emitted by the polarized light separator is aligned with "a direction of a light transmission axis of said polarization plate" (e.g., claim 1, last 2 lines).

The Examiner apparently has confused rotation of "maximum-intensity-direction of polarization of the light emitted from said light guide plate ... around a traveling direction of the light" (e.g., claim 1, lines 13-14) with redirection of the traveling direction of light emitted from the emission face of a light guide plate. In Fig. 5 of the application, an example of the traveling direction of the light is depicted by reference numeral 23. The directional arc corresponding to reference character "D" in Fig. 5 represents the rotation of the maximum-intensity-direction of polarization of the light. Pages 10-12 of the application describe the rotation of the maximum-intensity-direction of polarization of the light from 0°—180° in Fig. 6 to 155°—355° in Fig. 10 and between 10°—190° to 20°—200° in Fig. 11.

It is submitted that column 12, lines 41-45 of Gunjima et al. merely describes redirecting the traveling direction by the use of prism array 7 as illustrated in Fig. 1 of Gunjima et al. Even if it is assumed that prism array 7 corresponds to the light guide plate recited in claims 1-3, nothing has been cited or found in Gunjima et al. suggesting that the "maximum-intensity-direction of polarization of the light emitted from said light guide plate [i.e., prism array 7] is rotated around a traveling direction of the light" (e.g., claim 1, lines 13-14). Regardless of whether the light control sheet recited in claims 1-3 also redirects the light in the manner of the prism array 7 disclosed by Gunjima et al., nothing has been cited in Gunjima et al. suggesting the additional feature of rotating the "maximum-intensity-direction of polarization of the light emitted from said light guide plate" as recited in claims 1-3.

For the above reasons, it is submitted that claims 1-3 and claims 4-6 which depend therefrom patentably distinguish over Gunjima et al.

If there are any additional fees associated with filing of this Pre-Appeal Brief Request for Review, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: June 13, 2007

By: /Richard A. Gollhofer/
Richard A. Gollhofer
Registration No. 31,106

1201 New York Ave, N.W., 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

Aprvd for Electronic Filing
Richard A. Gollhofer
Date: 6/13/07 RAG